

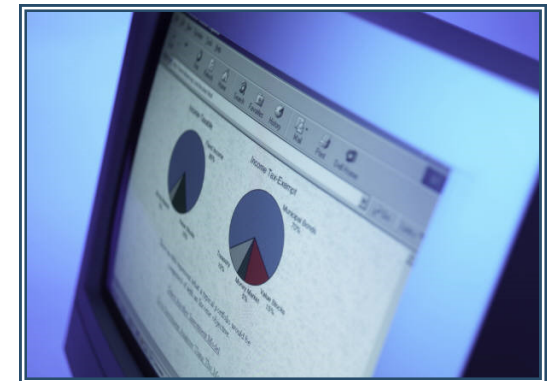
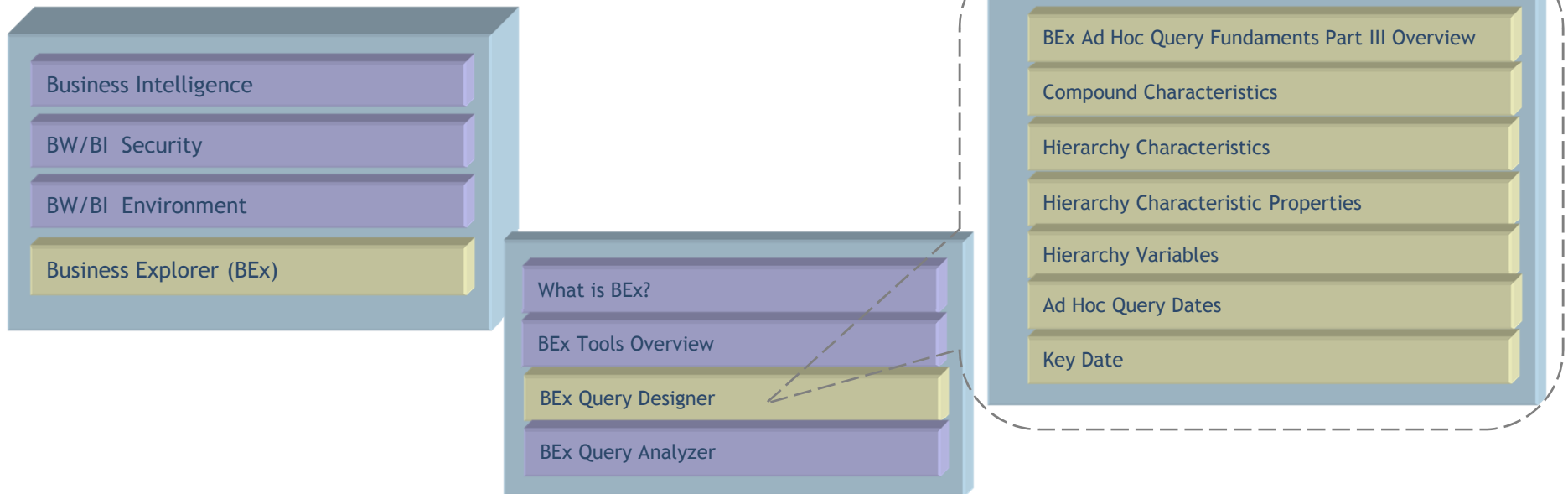
SAP Business Warehouse/Business Intelligence Reporting

BEx Ad Hoc Query Fundamentals - Part III

Washington State HRMS Business
Warehouse/Business Intelligence (BW/BI)
BW/BI Power User Workshop Materials
General Topics - BW/BI Power Users

BEx Ad Hoc Query Fundamentals – Part III

The following BEx Ad Hoc Query Fundamentals - Part III section provides an overview of BEx Ad Hoc Query Fundamentals and builds on the key terms and concepts covered in BEx Query Fundamentals - Part I and Part II.



BEx Ad Hoc Query Fundamentals – Part III Overview

BEx Ad Hoc Query Fundamentals - Part III contains the following key terms and concepts:

- Compound Characteristics
- Hierarchy Characteristics
- Hierarchy Characteristic Properties
- Hierarchy Variables
- Ad Hoc Query Dates
- Key Date

Ad Hoc Query
Dates

BEx Query Designer - Query: New Query

Query Edit View Tools Help

InfoProvider

Headcount and Personnel A

Dimensions

- Employee
- Action
- Personnel Area
- Personal Data
- Cost Center
- Organizational Assignment
- Employment
- Payment
- Employment Dates
- Employment Service
- Data Package
- Time
 - Cal. Year/Quarter
 - Calendar Day
 - Calendar month
 - Calendar Year
 - Calendar Year/Month
 - Quarter
 - Unit

Filter

Characteristic Restriction

- Personnel Area

Default Values

- Ethnic Origin
- Organizational Unit
- Pay Scale Group
- Pay Scale Type
- Pay Scale Area
- ES Grouping for CAP

Rows/Columns

Free Characteristics

- Ethnic Origin

Columns

Key Figures

- Number of Employees
- Number of Female Employees
- Avg Number of Female Employee

Rows

- Organizational Unit
- Pay Scale Group
- Pay Scale Type
- Pay Scale Area
- ES Grouping for CAP

Properties

General

No properties available for the current selection.

To display properties, choose one or more objects of the same type.

Properties

Demo PU Workshop (Query)

Rows/Columns | Value Display | Planning | Advanced | General | Variable Sequence | Display

Description

Demo PU Workshop

Technical Name

ARR_DEMOPUWORKSHOP

InfoProvider

ZPA_M03

Key Date

Use Standard Date

Key Date is set in the Properties Pane

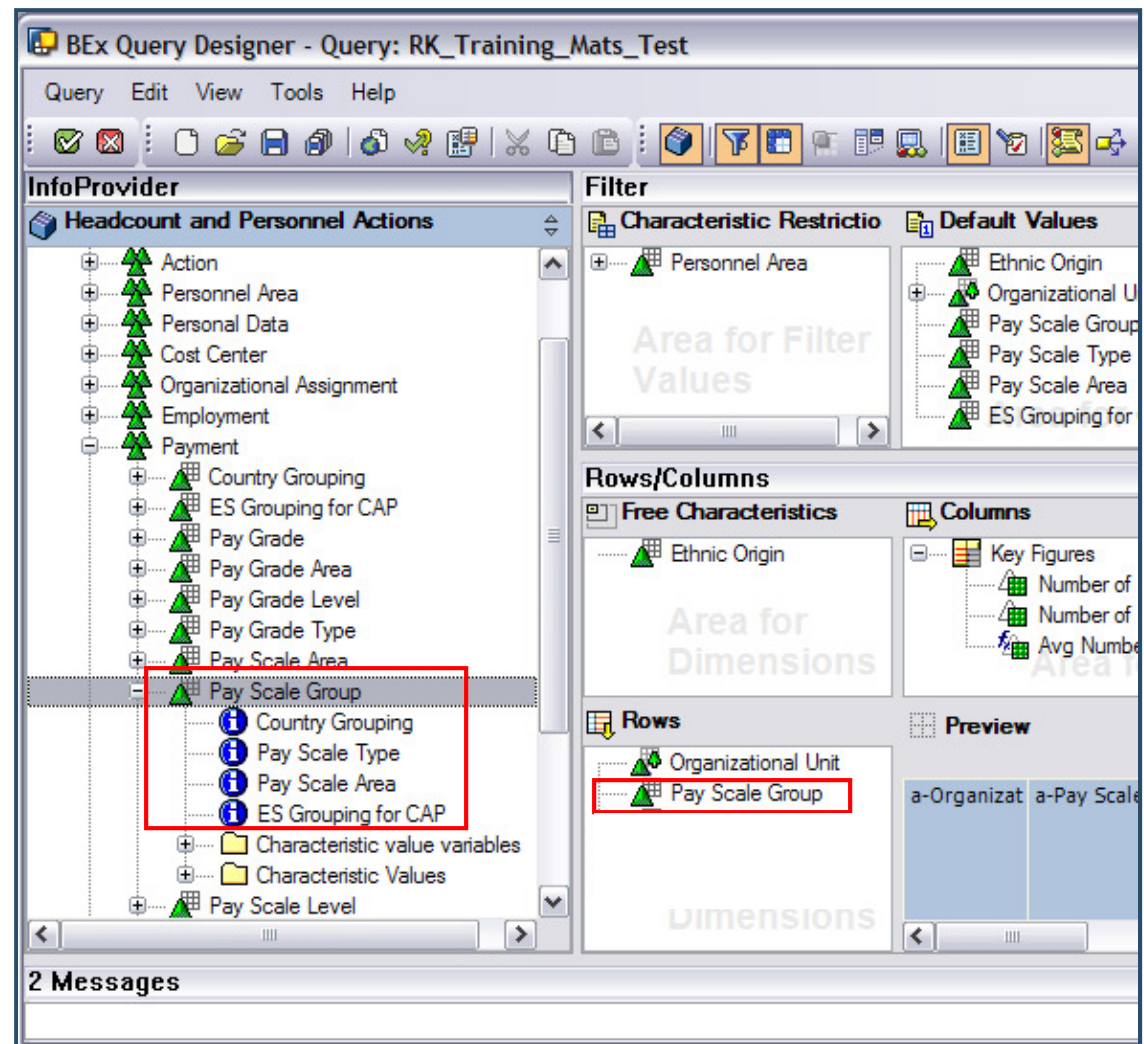
Compound Characteristics

Compound Characteristics are part of a group of Characteristics that are dependent on one another.

For example, the Pay Scale Group Characteristic is a Compound Characteristic that is compounded with the following Characteristics:

- Country Grouping
- Pay Scale Area
- Pay Scale Type
- ES Grouping for CAP (Employee Subgroup Grouping for Collective Agreement Provisions)

If Pay Scale Group is added to the query, all of its related Characteristics listed above are automatically included in the report results.



Compound Characteristics

In the example below, the Pay Scale Group Characteristic has been added to the ad hoc query. Country Grouping, Pay Scale Type, Pay Scale Area and ES Grouping for CAP are automatically added to the report results since they are Compounded with Pay Scale Group.

- To remove the Compound Characteristic data from the report, right click on “Pay Scale Group”, select “Properties” → “Characteristic”.
- In the Properties box, click on the “Display” dropdown arrow and select one that says “Not Compounded). This will remove the data for the Compound Characteristic from the results.

The screenshot illustrates the steps to remove compound characteristics from a report. It shows the 'RK_Training_Mats_Test' report with a table view. The 'Columns' section lists 'Pay Scale Group with Compound Characteristics'. The 'Rows' section lists 'Organizational Unit', 'Pay Scale Group', 'Pay Scale Type', 'Pay Scale Area', and 'ES Grouping for CAP'. The 'Pay Scale Group' column is highlighted with a red box. A right-click context menu is open over the 'Pay Scale Group' column, with 'Properties' selected. The 'Properties' dialog box is open, showing the 'General' tab. The 'Display' dropdown is set to 'Key (Not Compounded)'. The 'Display Results' dropdown is set to 'Always'. The 'Access Mode for Result Set' is set to 'Posted Values'. The 'Pay Scale Group' column is highlighted with a red box in the table view. The 'Pay Scale Group' column is highlighted with a red box in the table view.

Properties of Characteristic Pay Scale Group (Result Set Context)

General | Sorting | Advanced

Display: Key (Not Compounded)

Display Results: Always

Access Mode for Result Set: Posted Values

OK Cancel

Pay Scale Group without Compound Characteristics

Organizational Unit	Pay Scale Group
#	#
#	#
#	#
21	
22	
25	
27	

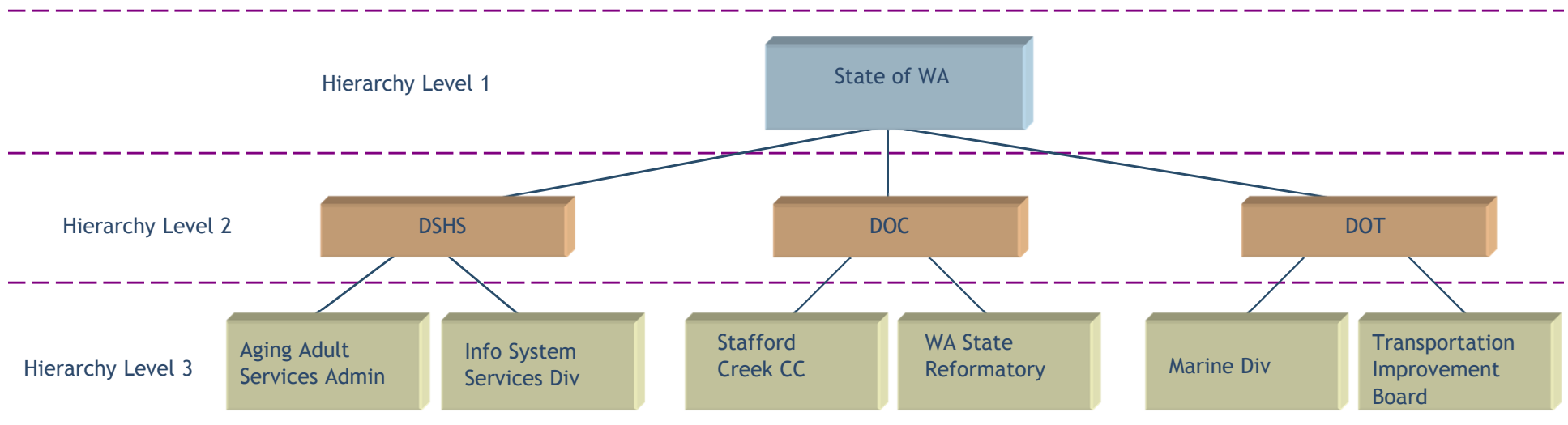
Hierarchy Characteristics

Hierarchy Characteristics are Characteristics arranged in a tree structure. In BW/BI , the only hierarchy is the Organizational Unit Hierarchy.

The Organizational Unit Hierarchy allows the user to select a “parent” Organizational Unit (such as State of WA or DOC in the example below) and include all the “child” Organizational Units that are beneath it when the ad hoc query is run.

The example below represents the Organizational Unit Hierarchy structure with each box representing a different Organizational Unit. These Organizational Units are arranged hierarchically with the State of Washington being the highest level, and Agencies below.

Sample Organizational Unit Hierarchy Structure

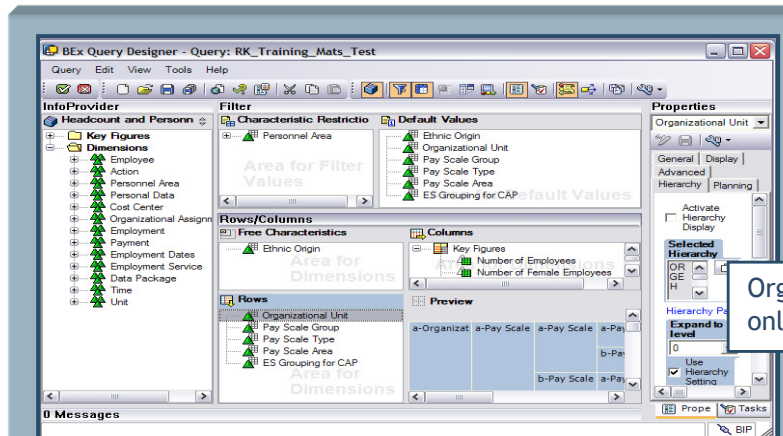


Hierarchy Characteristics

The example below shows the difference between using the Organizational Unit Characteristic and the Organizational Unit Characteristic with the Hierarchy in the ad hoc query.

Organizational Unit in Query (w/out Hierarchy)

Query Results for Organizational Unit (w/out Hierarchy)

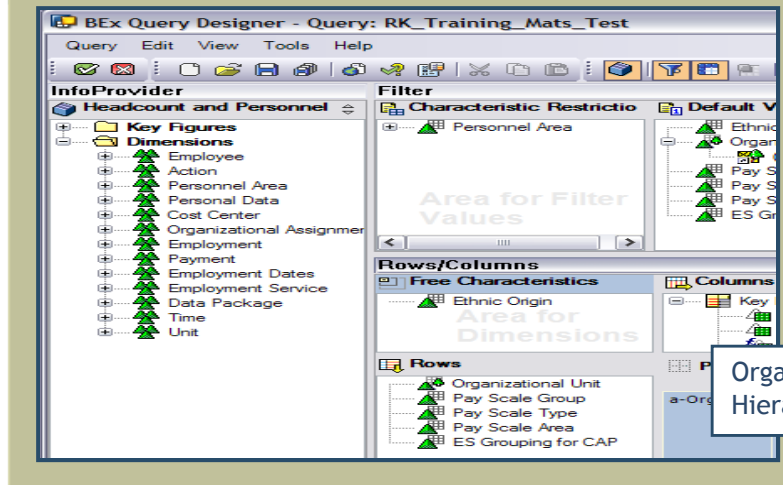


Organizational Unit	Pay Scale Group	Pay Scale Type	Pay Scale
30000510	10/00/01/3/58	10/00 Non-Represented	10/01
30000515	10/00/01/3/66	10/00 Non-Represented	10/01
DA	10/##/##/##	10/## 10/Not assigned	10/##
	10/##/##/3/##	10/## 10/Not assigned	10/##
	10/00/01/1/44	10/00 Non-Represented	10/01
	10/00/01/1/48	10/00 Non-Represented	10/01
	10/00/01/1/50	10/00 Non-Represented	10/01
	10/00/01/1/54	10/00 Non-Represented	10/01

Organizational Unit only

Organizational Unit Hierarchy in Query

Query Results for Organizational Unit Hierarchy



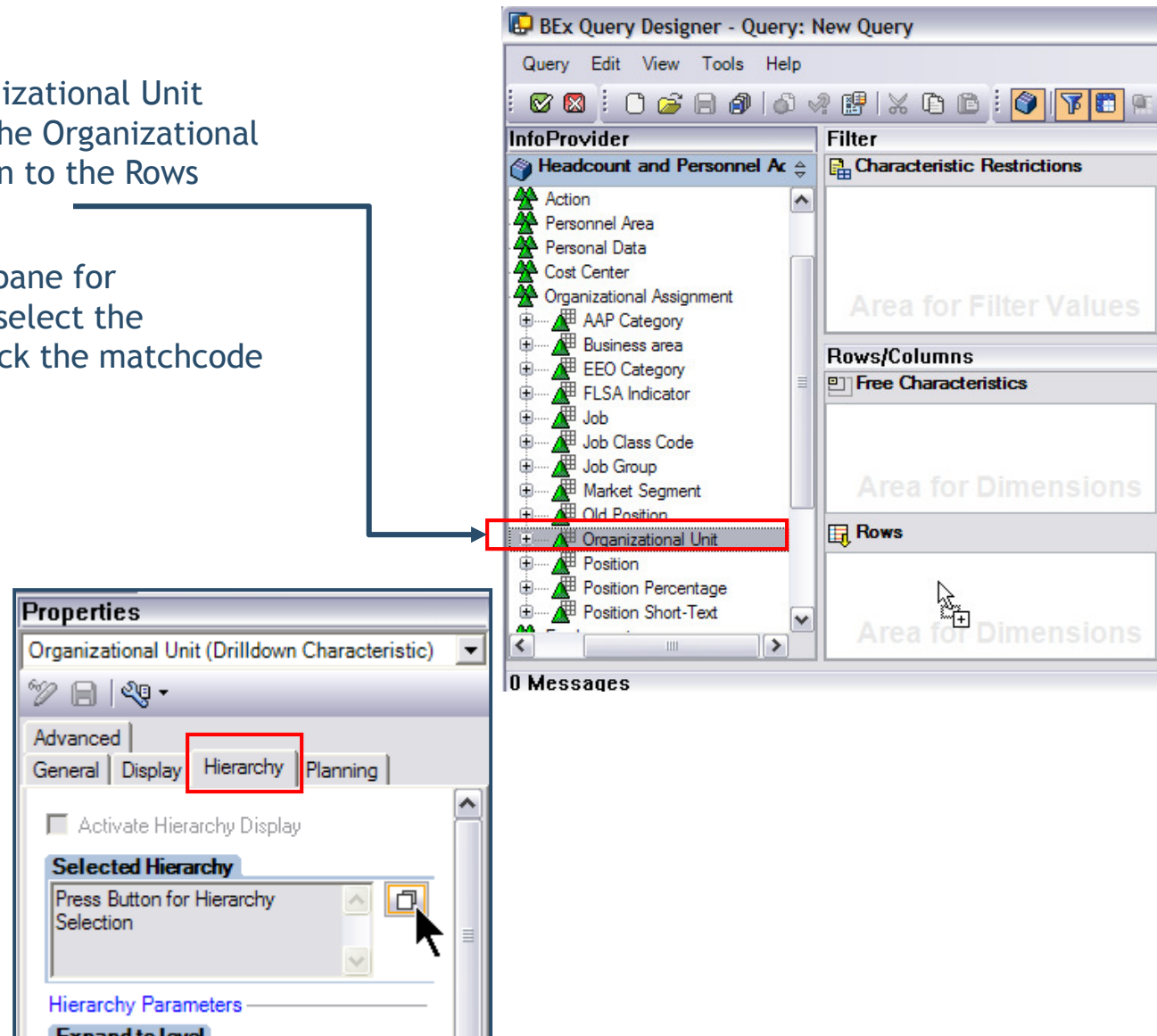
Organizational Unit	Pay Scale Group	Pay Scale Type	Pay Scale
▼ SOW	10/00/01/3/55	10/00 Non-Represented	10/01
	10/00/01/3/56	10/00 Non-Represented	10/01
	10/00/01/3/58	10/00 Non-Represented	10/01
	10/00/01/3/62	10/00 Non-Represented	10/01
	10/00/01/3/66	10/00 Non-Represented	10/01
	10/00/01/3/70	10/00 Non-Represented	10/01
	10/00/07/3/27G	10/00 Non-Represented	10/07
	10/00/07/3/35G	10/00 Non-Represented	10/07
	10/00/07/3/41G	10/00 Non-Represented	10/07
	10/01/01/3/58	10/01 WFSE	10/01
► 111	10/##/##/##	10/## 10/Not assigned	10/##
	10/##/##/1/##	10/## 10/Not assigned	10/##

Organizational Unit Hierarchy

Hierarchy Characteristics

To make the Organizational Unit Characteristic a Hierarchy:

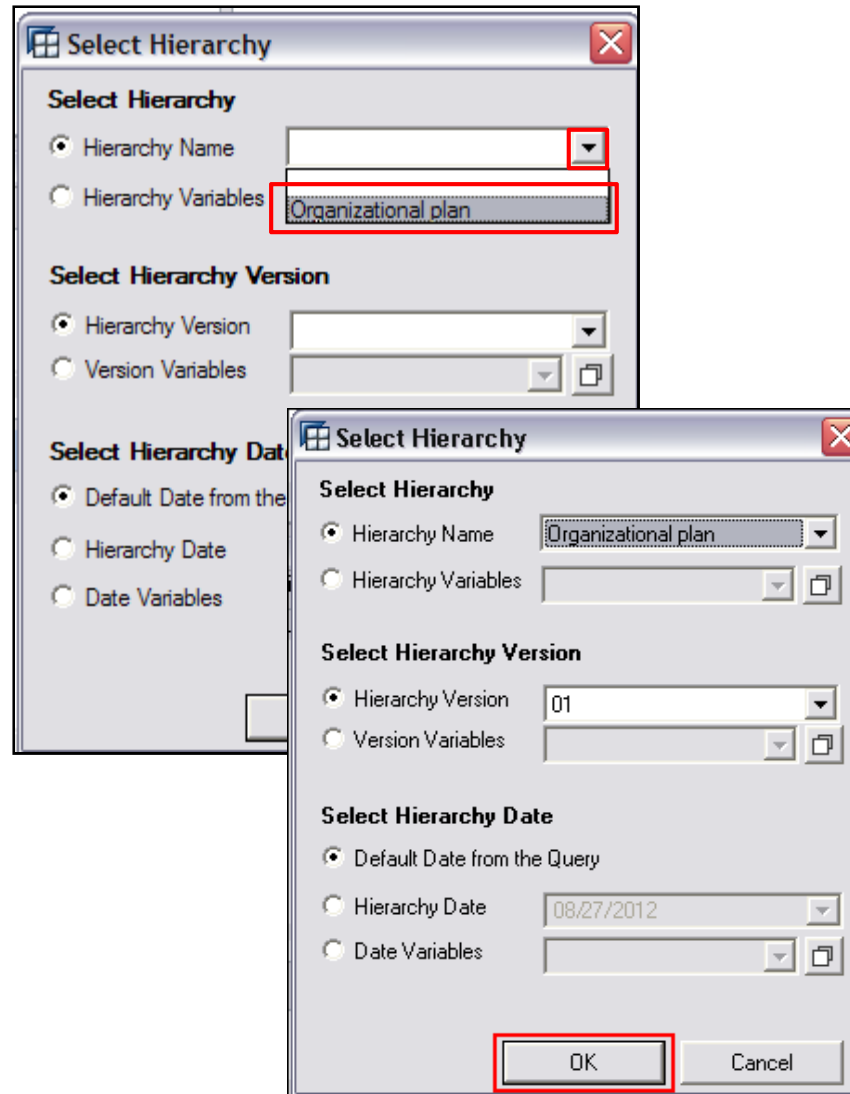
1. Drag&Drop the Organizational Unit Characteristic from the Organizational Assignment Dimension to the Rows section of the query.
2. From the Properties pane for Organizational Unit, select the Hierarchy tab and click the matchcode button.



Hierarchy Characteristics

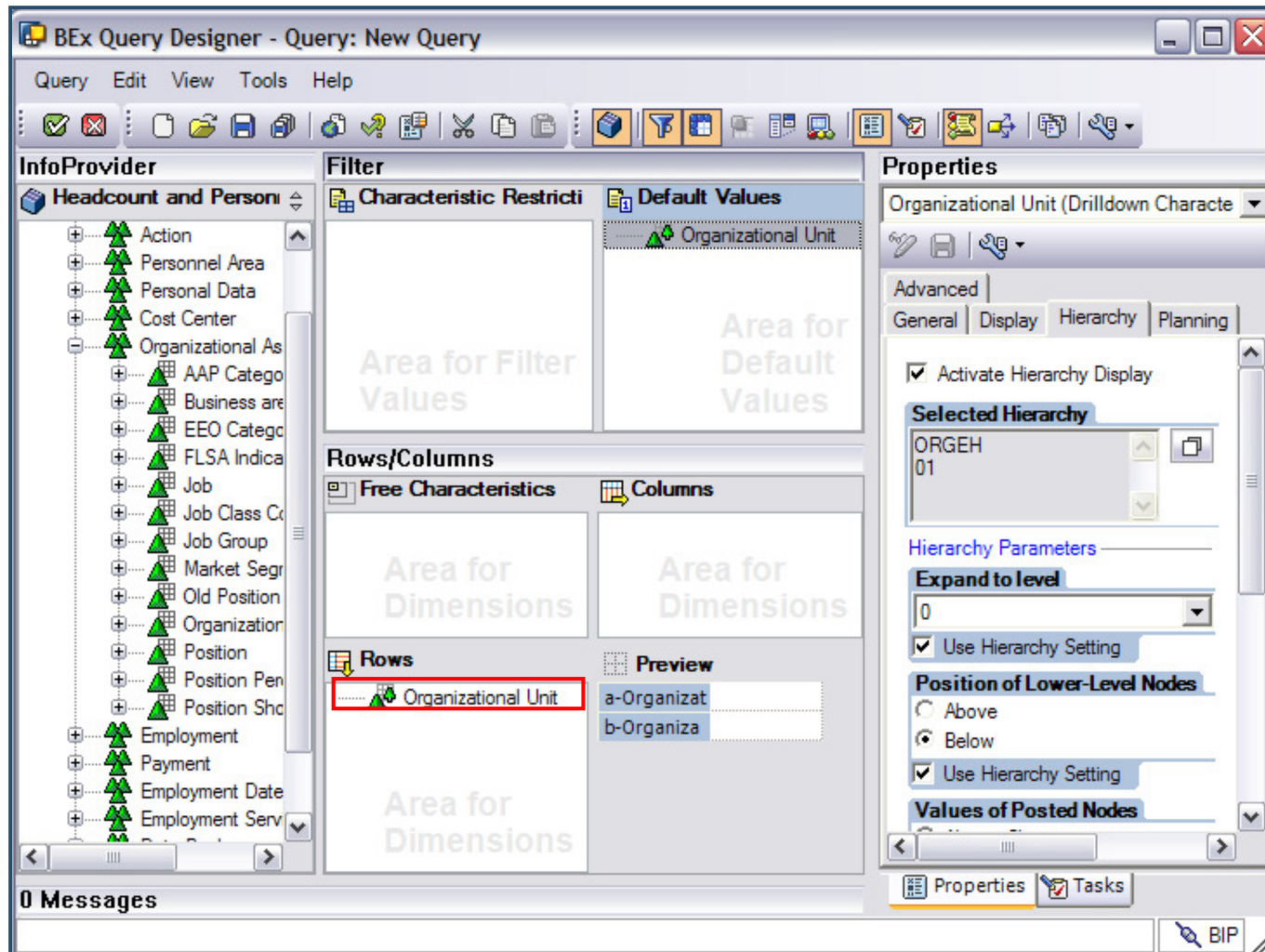
To make the Organizational Unit Characteristic a Hierarchy:

3. Click on the dropdown in the Hierarchy Name text box and select the Hierarchy (there is only one).
4. Version and Date have default values. These can be left as default.
5. Click OK.



Hierarchy Characteristics

Result: The Organizational Unit Characteristic has been changed to Organizational Unit Hierarchy.



Hierarchy Characteristic Properties

The **Hierarchy Characteristic Properties** become available when a Hierarchy becomes enabled.

The example below provides a brief description of the Display Hierarchy property settings (other property settings are defined in the Characteristics Properties section):

The image displays two screenshots of the 'Properties' dialog box for 'Organizational Unit (Drilldown Characteristic)'. The left screenshot shows the 'General' and 'Display' tabs, while the right screenshot shows the 'Hierarchy' tab. Red arrows and boxes highlight specific settings and their functions.

Left Screenshot (General/Display tabs):

- Turn Hierarchy on or off:** Points to the 'Activate Hierarchy Display' checkbox.
- Select the Hierarchy:** Points to the 'Selected Hierarchy' list, which contains 'ORGEH 01'.
- Specify how many levels the Hierarchy should expand to on execution (Expand to level 1 to rollup Hierarchy on startup):** Points to the 'Expand to level' dropdown, which is set to '0'.

Right Screenshot (Hierarchy tab):

- Sort the Hierarchy: Ascending / Descending:** Points to the 'Sort by' dropdown, which is set to 'As in the Hierarchy'.

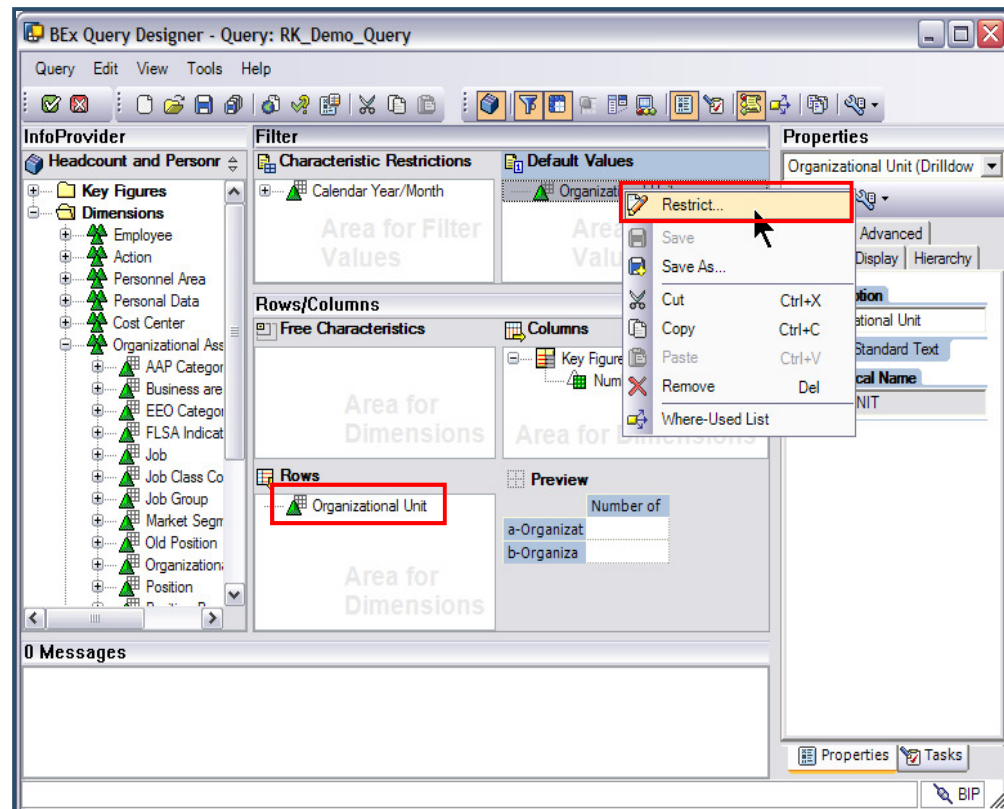
Hierarchy Variables

Hierarchy Variables are Variables added to a Hierarchy Characteristic that prompt the user to enter a Hierarchy Variable prior to running a query. The Organizational Unit Hierarchy is the only Hierarchy available in BW/BI.

The example below uses the Headcount and Personnel Actions InfoProvider to show how to add the Organizational Unit Hierarchy Variable to the Organizational Unit Hierarchy. This will prompt the user to enter an Organizational Unit Hierarchy prior to running a query.

To add a Hierarchy Variable to a Hierarchy:

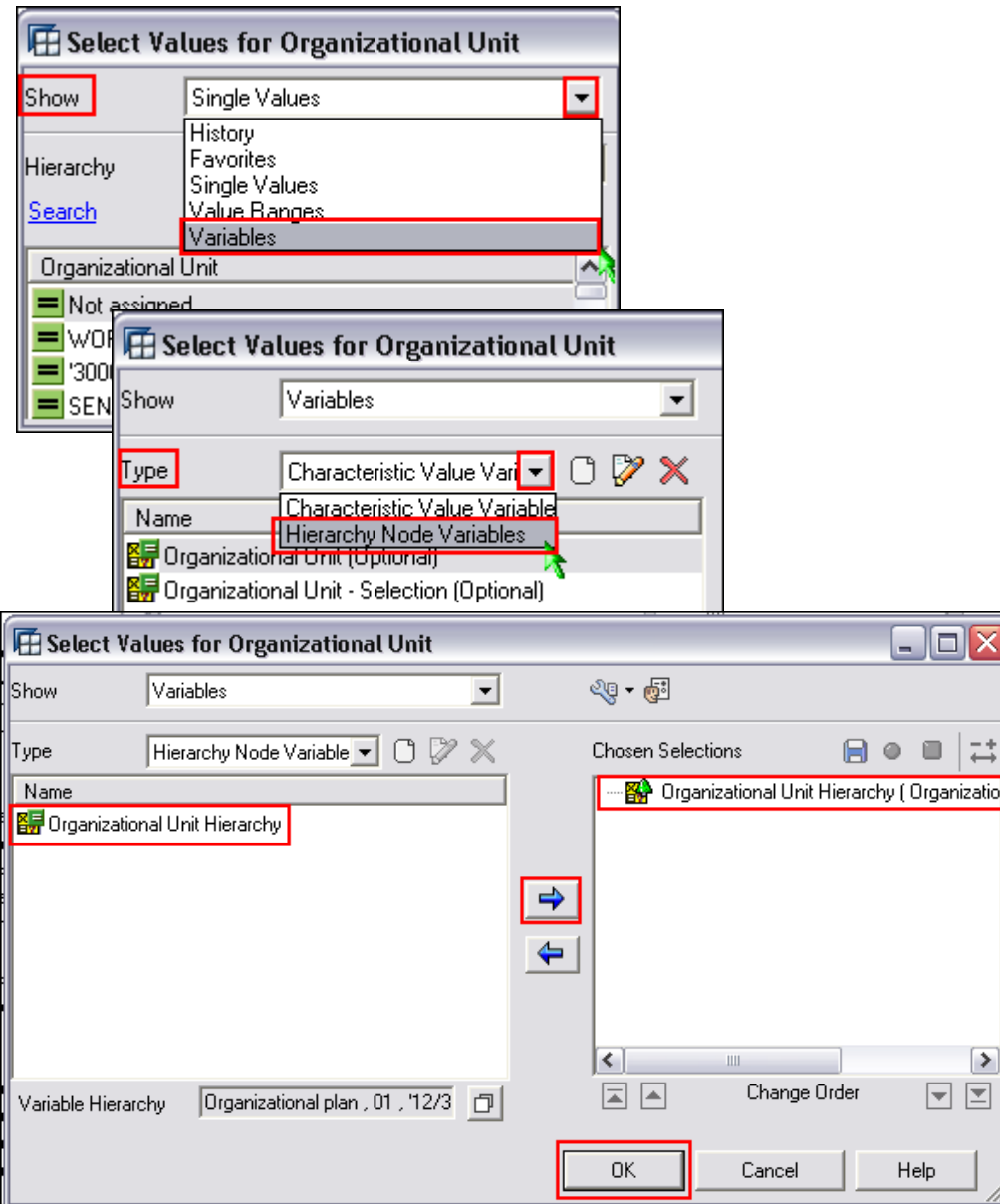
1. Drag&Drop the Organizational Unit Characteristic to the Rows section of the query.
2. Right click on the Organizational Unit Characteristic in the Default Values section to open the Context Menu.
3. Select Restrict.



Hierarchy Variables

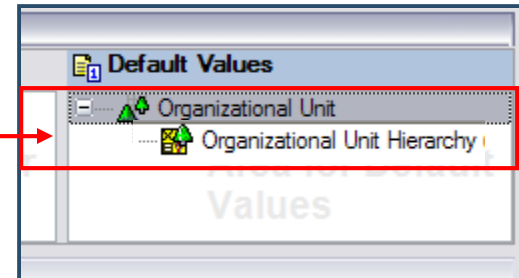
Result: The Selection Values for Organizational Unit screen will be displayed.

4. From the “Show” dropdown, select “Variables”.
5. From the “Type” dropdown, select “Hierarchy Node Variables”:
6. Select “Organizational Unit Hierarchy”.
7. Click the arrow to “Move to Selection”.
8. Click OK.



Hierarchy Variables

Result: The Organizational Unit Hierarchy variable has been added to the Organizational Unit Characteristic



The user will be prompted to enter an Organizational Unit Hierarchy variable prior to running the ad hoc query.

A screenshot of a 'Variable Entry' dialog box. It contains a table of 'General Variables'. The 'Organizational Unit Hierarchy' variable is selected and highlighted with a red box. A red arrow points from the text 'The user will be prompted to enter an Organizational Unit Hierarchy variable prior to running the ad hoc query.' to the 'Organizational Unit Hierarchy' row. Below the table, the 'OK' button is also highlighted with a red box.

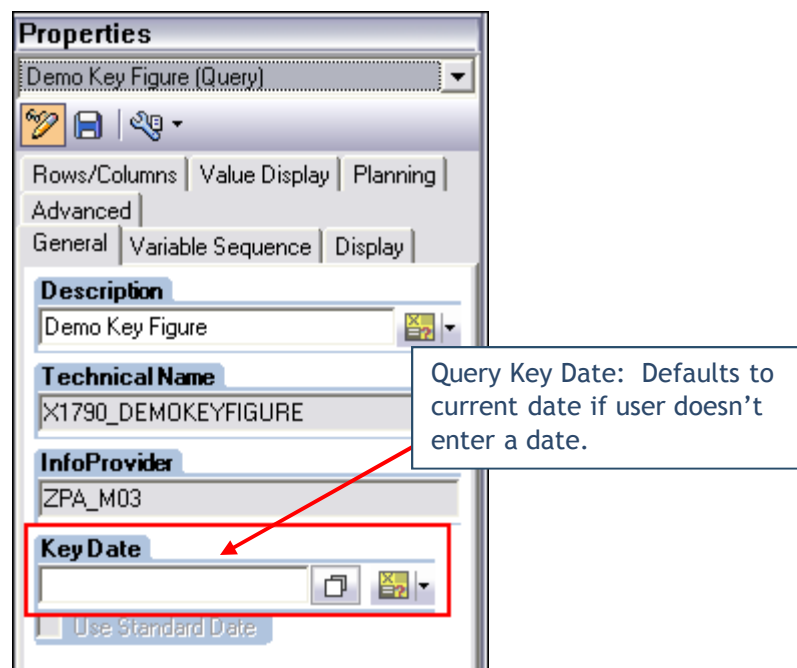
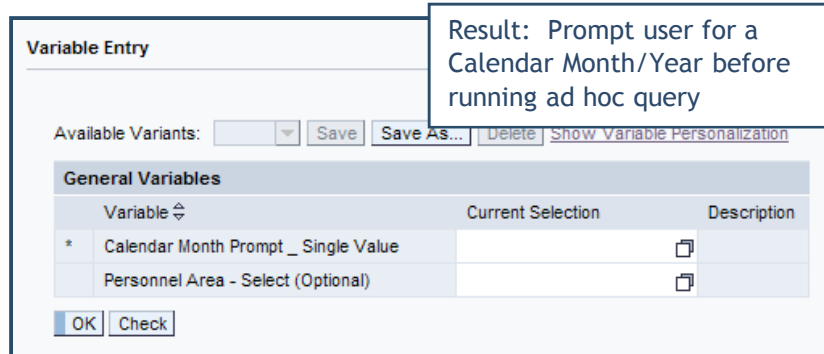
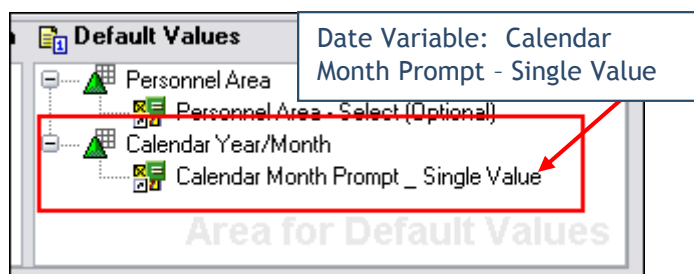
Variable	Current Selection	Description
Personnel Area - Select (Optional)		
Organizational Unit Hierarchy	+31007726(0ORGUNIT)	31007726 DEPT OF ENTERPRISE SERVICES

Ad Hoc Query Dates

Date Characteristics are InfoObjects that can be added to a query from the Time dimension. Date Characteristics such as Calendar Days or Calendar Month/Year can be added to a query in Rows, Columns, Free Characteristics or Filters.

When a Date Characteristic is used with a variable, Characteristics and Attributes in the query could report two different time periods:

- Characteristics in the query will be “as of” the date value input by the user in the Date Variable.
- Attributes in the query will be “as of” the Key Date set in the query properties.

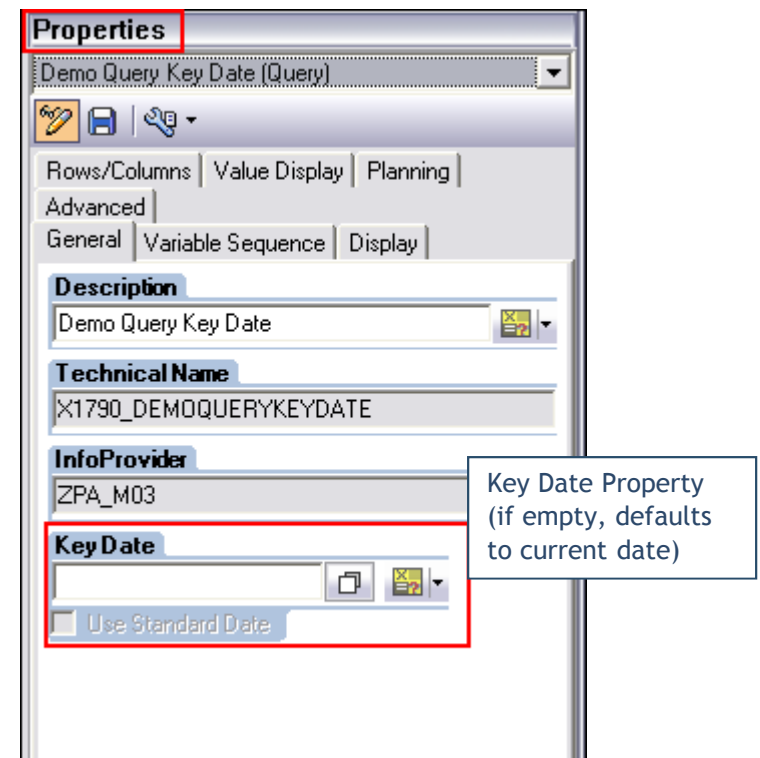
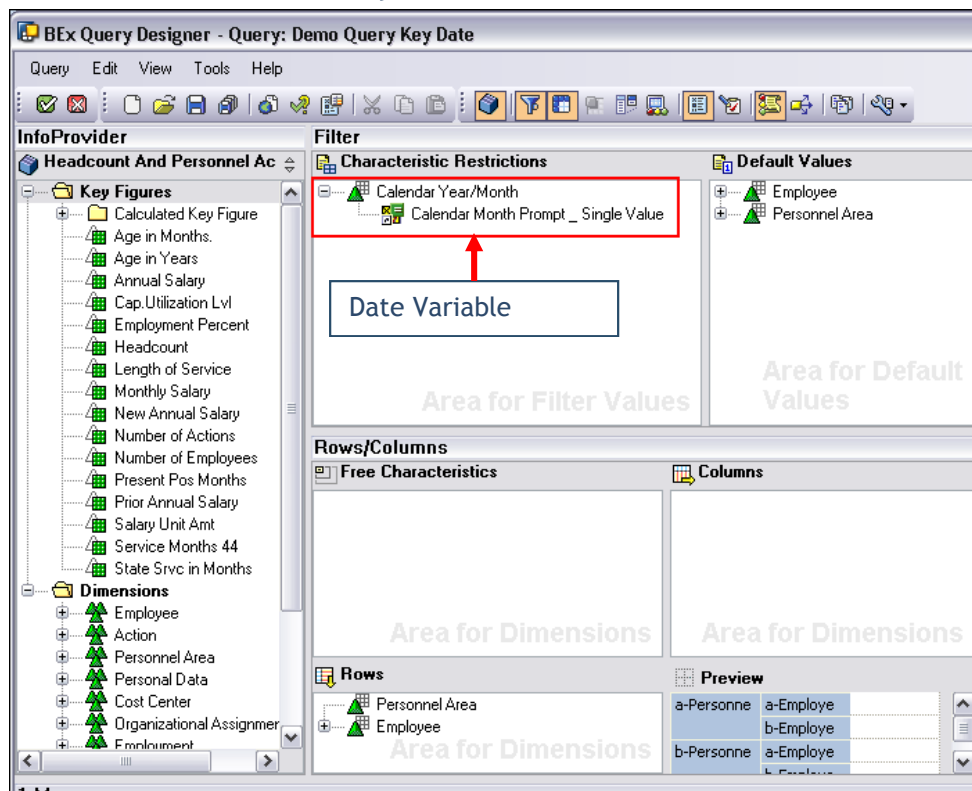


Ad Hoc Query Dates

The **Key Date** represents the “as of” date for Attributes. Key Date is set from the Query Property settings of an ad hoc query.

Attributes and Characteristics in the query could report two different time periods when a Date Characteristic is used with a variable.

- Characteristics in the query will be “as of” the date value input by the user in the Date Variable.
- Attributes in the query will be “as of” the Key Date set in the query properties (if nothing is entered, the Key Date will default to the current date).



Ad Hoc Query Dates

The example below shows InfoObjects of an ad hoc query that are related to Key Date.

- Attributes in the query results will be reported by the date values of the Key Date in the ad hoc query Properties. If the Key Date is left empty, the Key Date will default to the current date.
- If a Date Variable is added to a Date Characteristic in the query, Characteristics in the query results will be reported by the date input by the user from the Date Variable.

The screenshot displays the BEx Query Designer interface for a query titled "Demo Query Key Date". The interface is divided into several panes:

- InfoProvider:** A tree view on the left showing the hierarchy of data sources. A callout box labeled "Calendar Year/Month Characteristic" points to the "Calendar Year/Month" node in this tree.
- Filter:** A central pane with a "Characteristic Restrictions" section. It contains two items: "Calendar Year/Month" and "Calendar Month Prompt _ Single Value". A red box highlights these two items, and a callout box labeled "Date Variable (prompt user for month/year prior to running query)" points to the "Calendar Month Prompt _ Single Value" item.
- Rows/Columns:** A pane on the right showing the layout of the query results. It includes a "Free Characteristics" section and a "Columns" section. A callout box labeled "Characteristics (Personnel Area and Employee): Valid as of the Calendar Year/Month input by the user." points to the "Personnel Area" and "Employee" items in the "Free Characteristics" section.
- Rows:** A section at the bottom of the "Rows/Columns" pane showing the attributes to be displayed. A red box highlights "Hire Date", "Position", and "Annual Salary". A callout box labeled "Attribute (Hire Date, Position, and Annual Salary): Valid as of the Key Date" points to these three attributes.

Key Date

To ensure Attributes and Characteristics report the same time periods in the query results, the following options are available:

1. **Do not use a Date Variable**

If a Date Variable is not added to an ad hoc query, the Attributes and Characteristics will be valid as of the current date. The Key Date does not need to be set since it defaults to the current date.

2. **Manually set Key Date**

The Key Date can be manually set from the Query Property settings. If the Key Date is manually set, the value from the Key Date in the Query Property settings will be used each time the query is run.

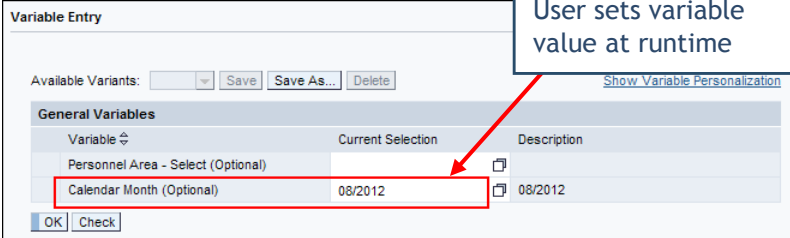
If a variable value is input at query runtime:

- the value from the Key Date in the Query Property settings will be used for Attributes.
- the value from the variable will be used for Characteristics.

The following page will show two examples of manually setting the Key Date using a Calendar Year/Month variable and a Calendar Day variable.

Key Date

The following example uses the “Calendar Month (Optional)” variable to show how the Key Date could be set if the calendar month is set to 8/2012:



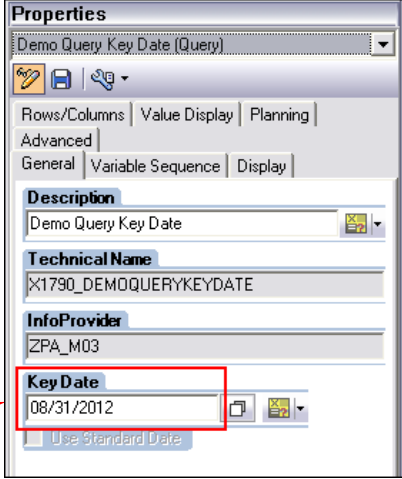
Variable Entry

Available Variables: Save Save As... Delete Show Variable Personalization

Variable	Current Selection	Description
Personnel Area - Select (Optional)		
Calendar Month (Optional)	08/2012	08/2012

OK Check

Example: Calendar Month (Optional) variable for 8/2012



Properties

Demo Query Key Date (Query)

Rows/Columns Value Display Planning Advanced

General Variable Sequence Display

Description
Demo Query Key Date

Technical Name
X1790_DEMOQUERYKEYDATE

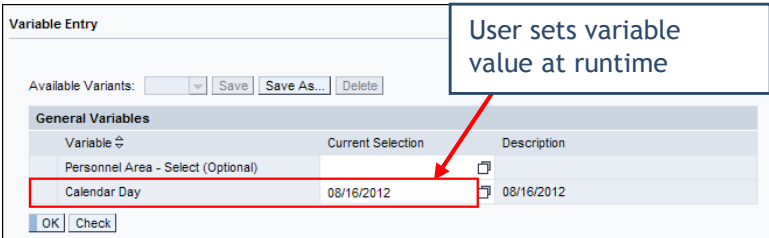
InfoProvider
ZPA_M03

Key Date
08/31/2012

Use Standard Date

Example: Set Key Date property to the last day of the month selected from the Variables prompt - 8/2012

The following example uses the “Calendar Day” variable to show how the Key Date could be set if the calendar day is set to 8/16/2012:



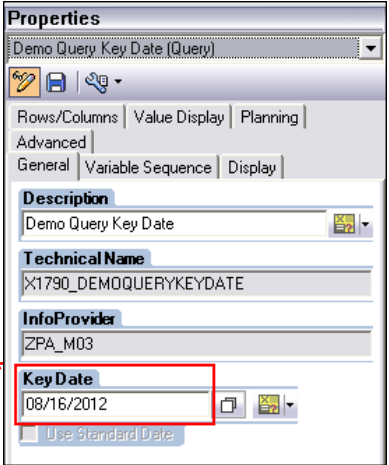
Variable Entry

Available Variables: Save Save As... Delete Show Variable Personalization

Variable	Current Selection	Description
Personnel Area - Select (Optional)		
Calendar Day	08/16/2012	08/16/2012

OK Check

Example: OCALDAY (OPTIONAL) variable for 8/16/2012



Properties

Demo Query Key Date (Query)

Rows/Columns Value Display Planning Advanced

General Variable Sequence Display

Description
Demo Query Key Date

Technical Name
X1790_DEMOQUERYKEYDATE

InfoProvider
ZPA_M03

Key Date
08/16/2012

Use Standard Date

Example: Set Key Date property to the same day of the day selected from the Variables prompt -8/16/2012

Key Date

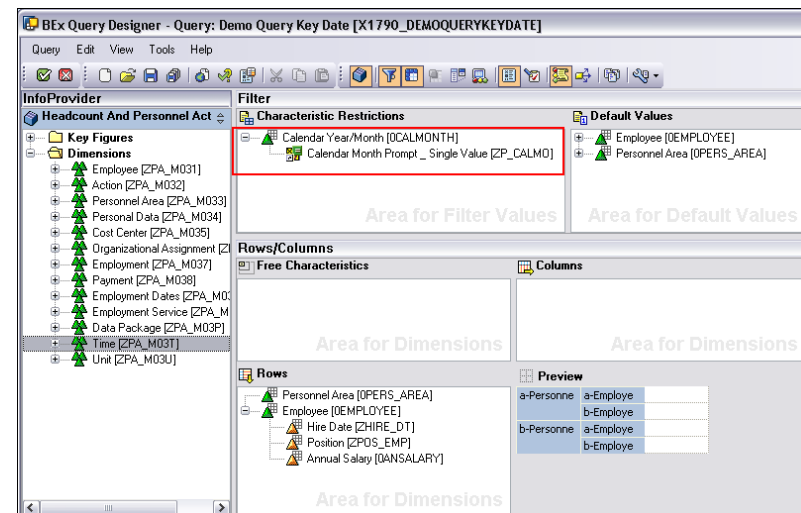
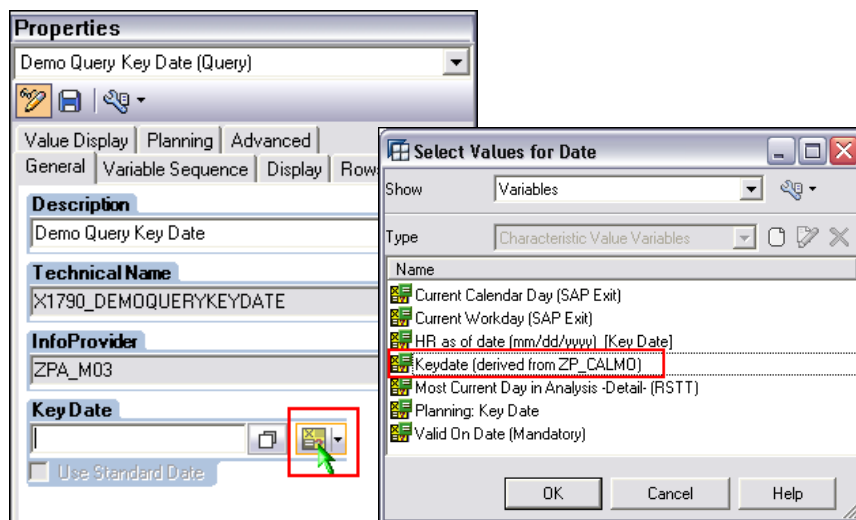
3. Use a Key Date Variable

The Key Date can be set to automatically match what the user enters into the date variable by using the Key Date variable “Key Date for ZP_CALMO”.

The “Key Date for ZP_CALMO” Key Date variable is used with the Date Variable “Calendar Month Prompt - Single Value” (ZP_CALMO) variable. Using both of these variables ensures that Characteristics and Attributes data is being pulled from the same time period.


If a date variable value is input at query runtime:

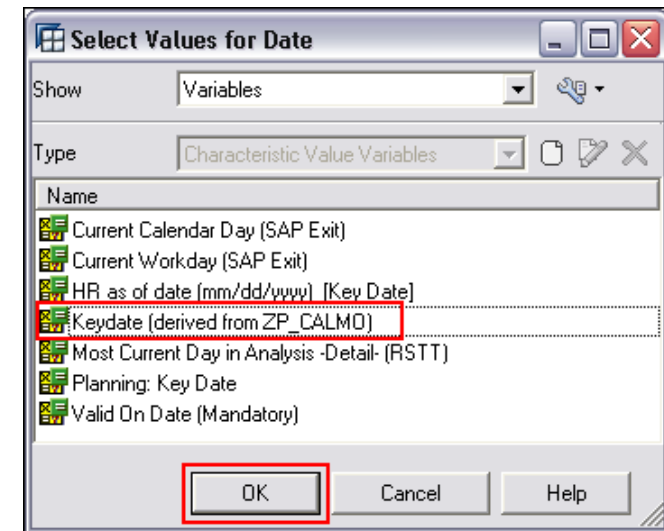
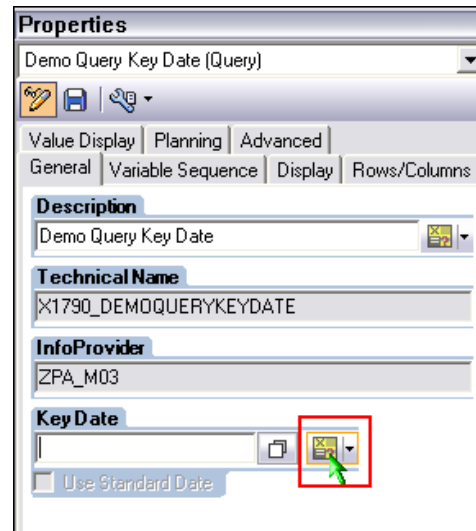
- the value from the “Key Date for ZP_CALMO” variable for Query Key Date will automatically match what the user enters into the Date Variable.
- the value from the “Calendar Month Prompt - Single Value (ZP_CALMO)” variable will be used for Characteristics.
- the value from the “Keydate (derived from ZP_CALMO)” variable will be used for Attributes.



Key Date

To set the Key Date property to the “Key Date for ZP_CALMO” variable:

1. In the Properties box for the Query, click the variable  icon in the Key Date section.
2. In the Select values for Date, select “Keydate”.
3. Click OK.



Result: Key Date variable is added.

